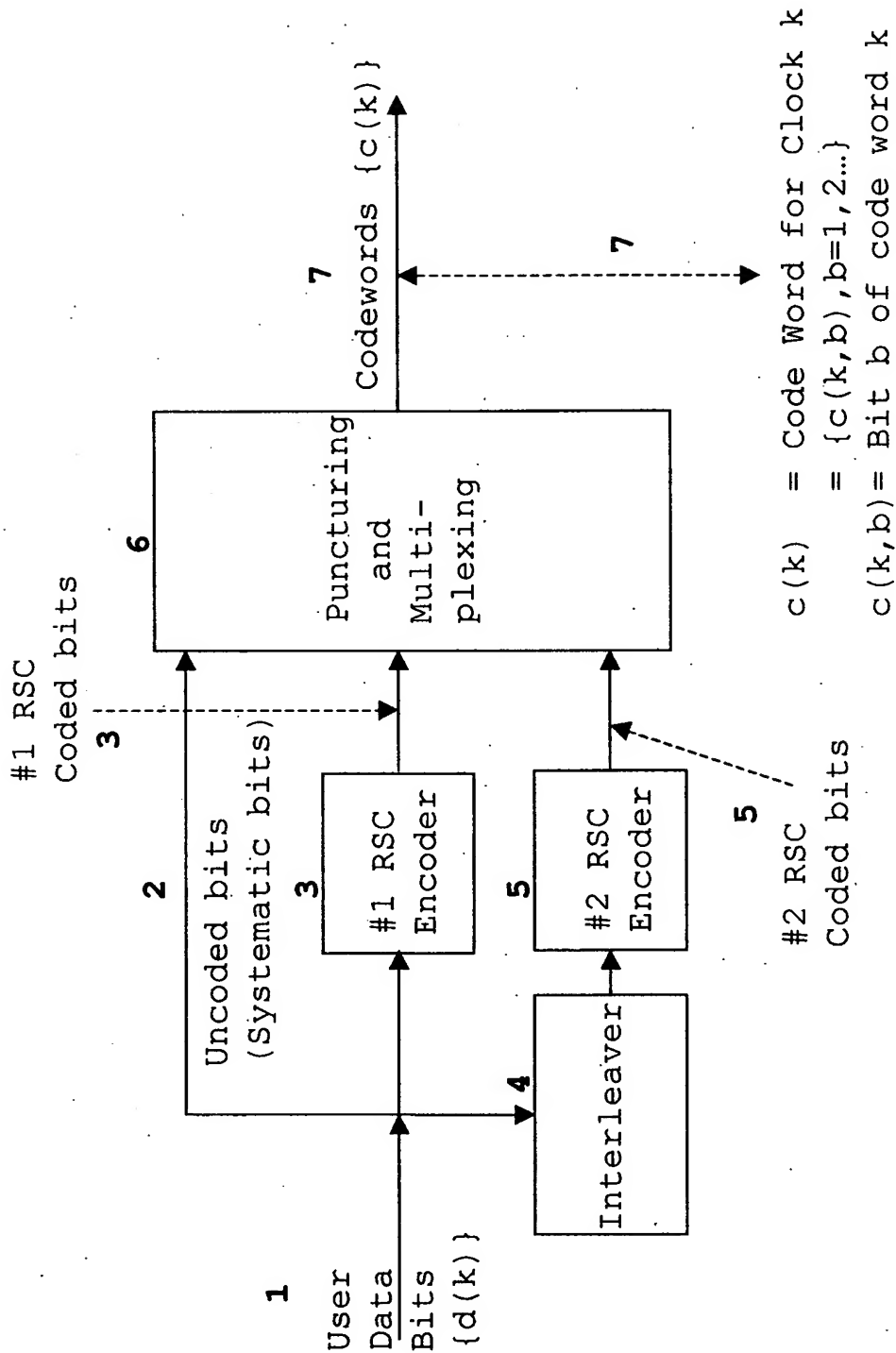




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FIG. 1 Turbo Encoder Block Diagram for Parallel Architecture



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FIG. 1 Prior Art: Turbo Encoder Block Diagram for Parallel Architecture

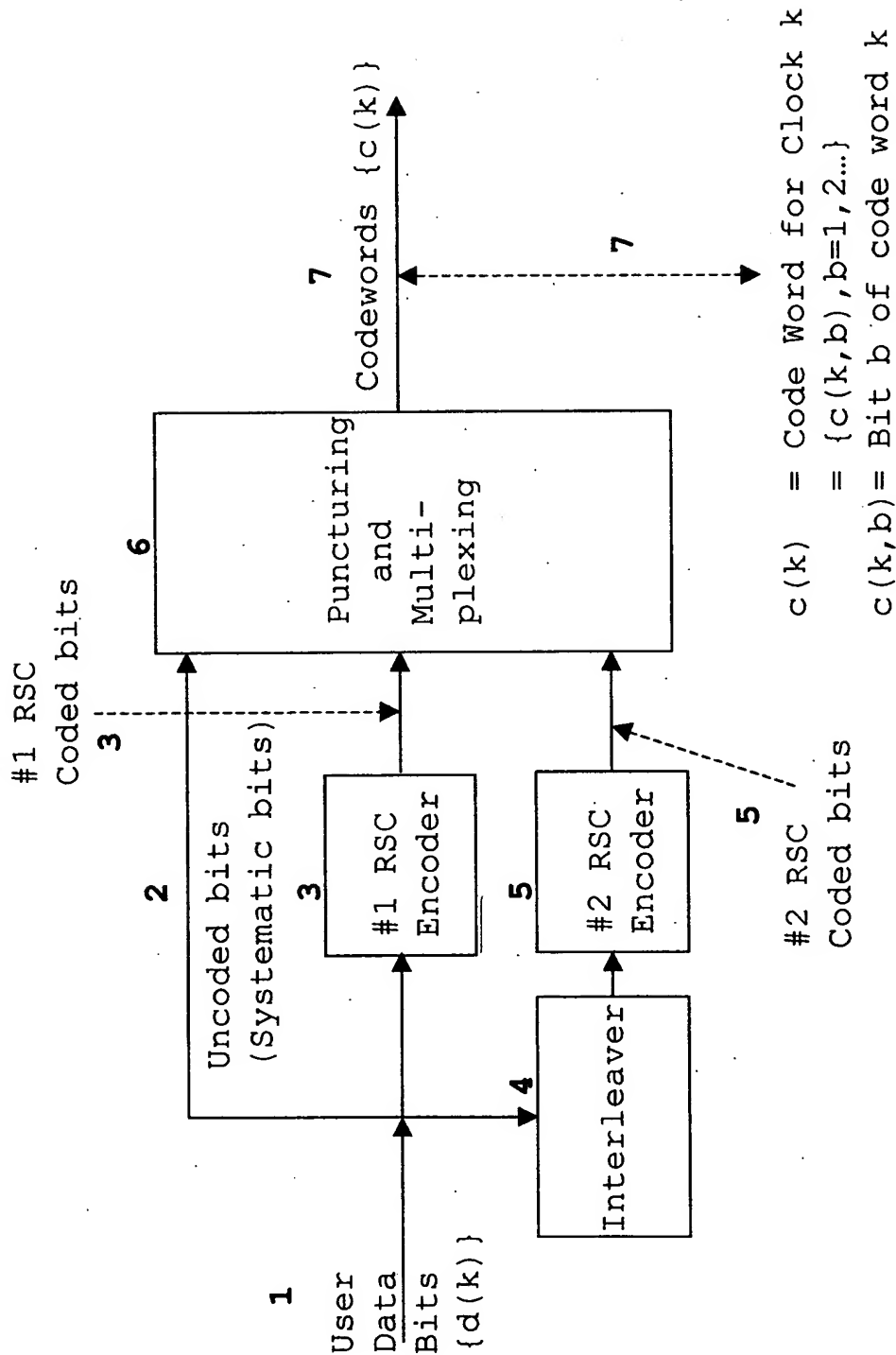
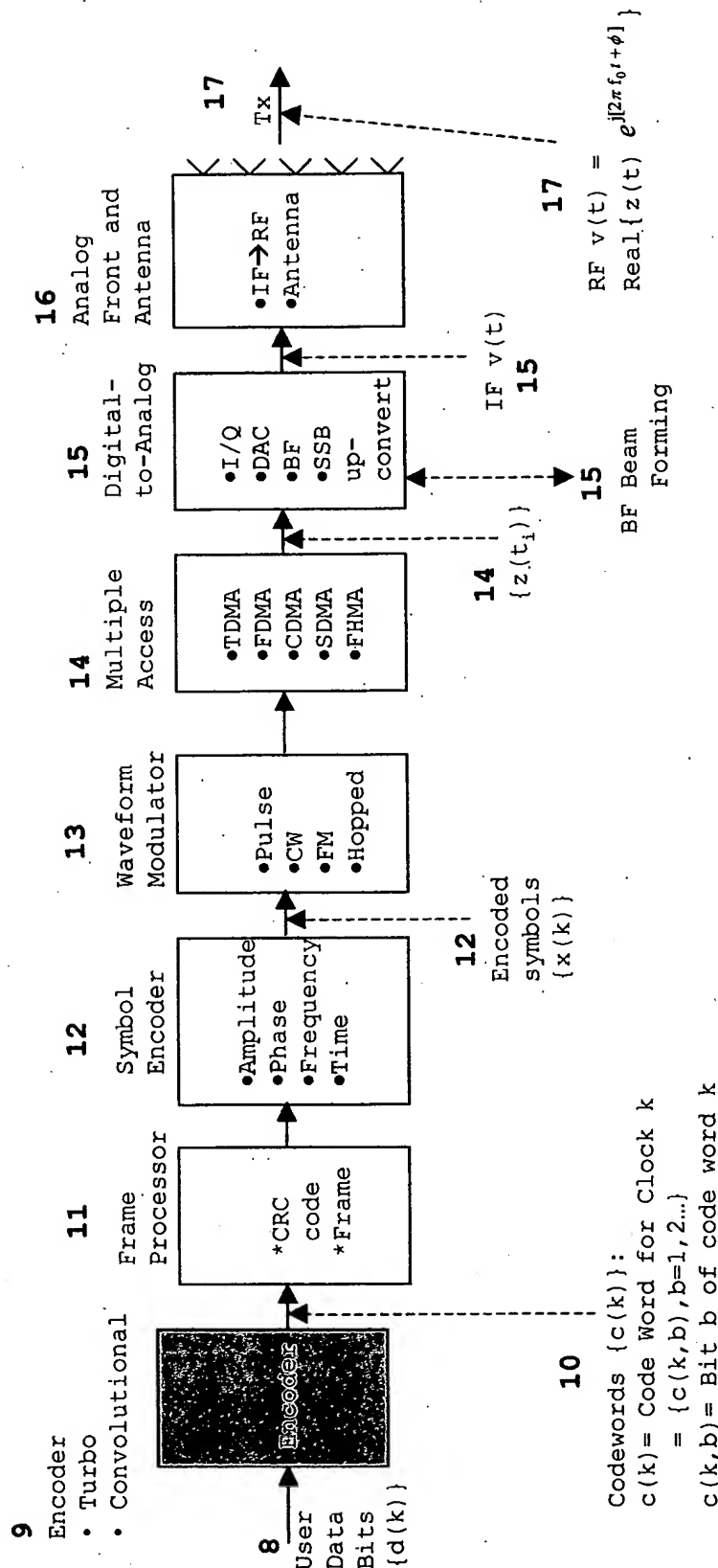


FIG. 2 Turbo/Convolutional Code Transmitter Block Diagram



# REPLACEMENT SHEET

**FIG. 2 Prior Art: Turbo/Convolutional Code Transmitter Block Diagram**

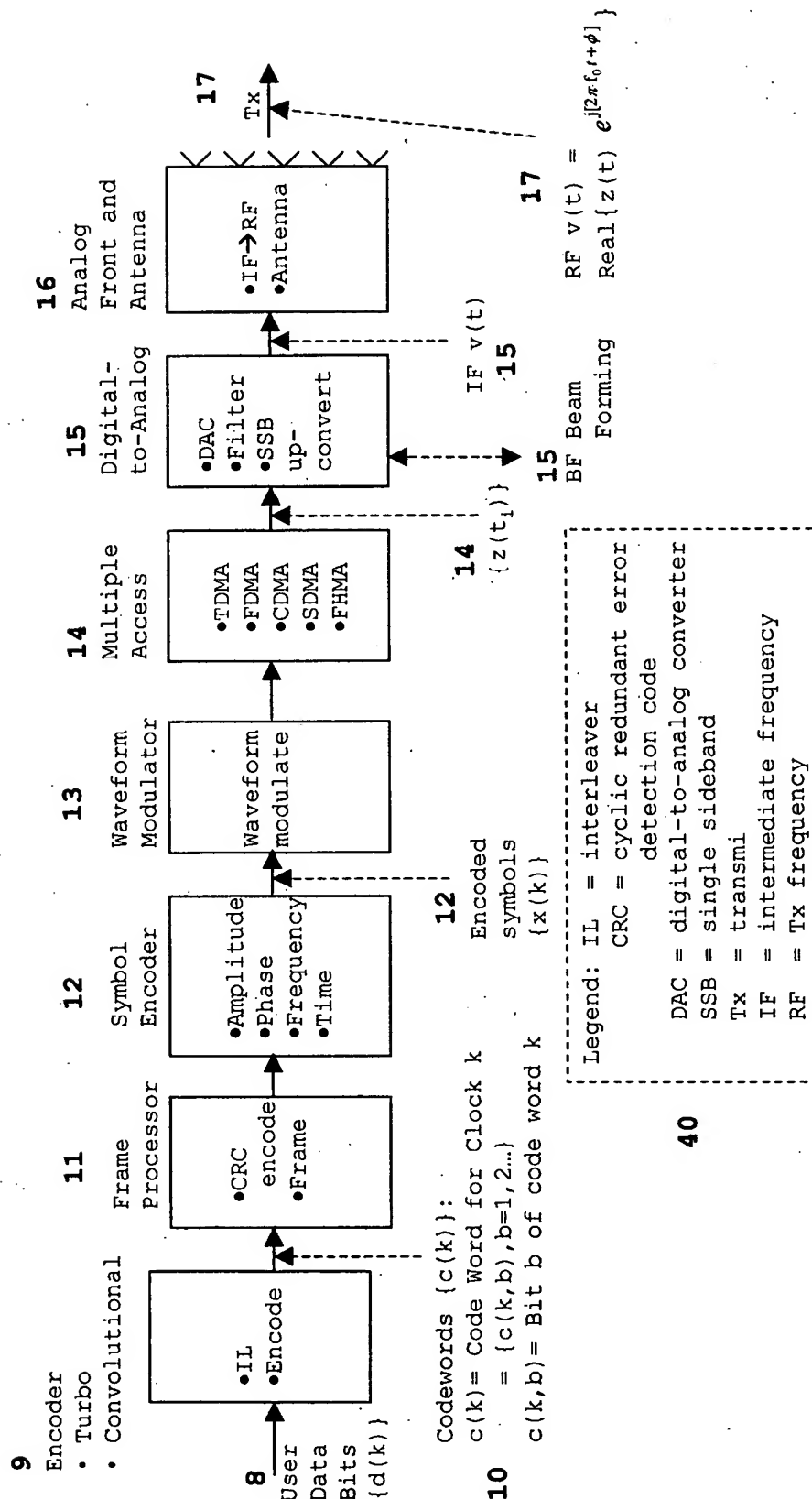
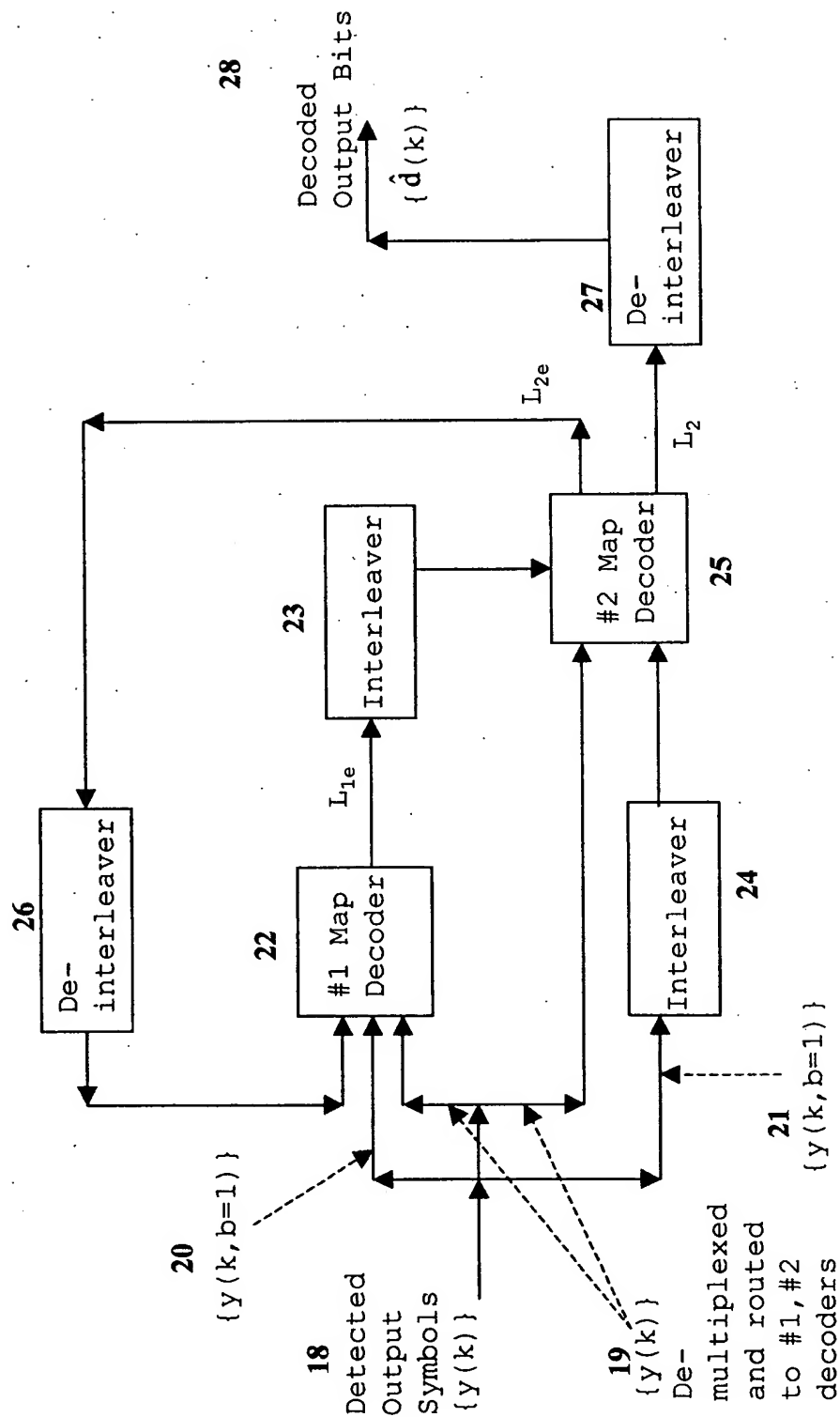


FIG. 3 Iterative Turbo Decode Block Diagram  
for Parallel Architecture



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FIG. 3 Prior Art: Iterative Turbo Decode Block Diagram for Parallel Architecture

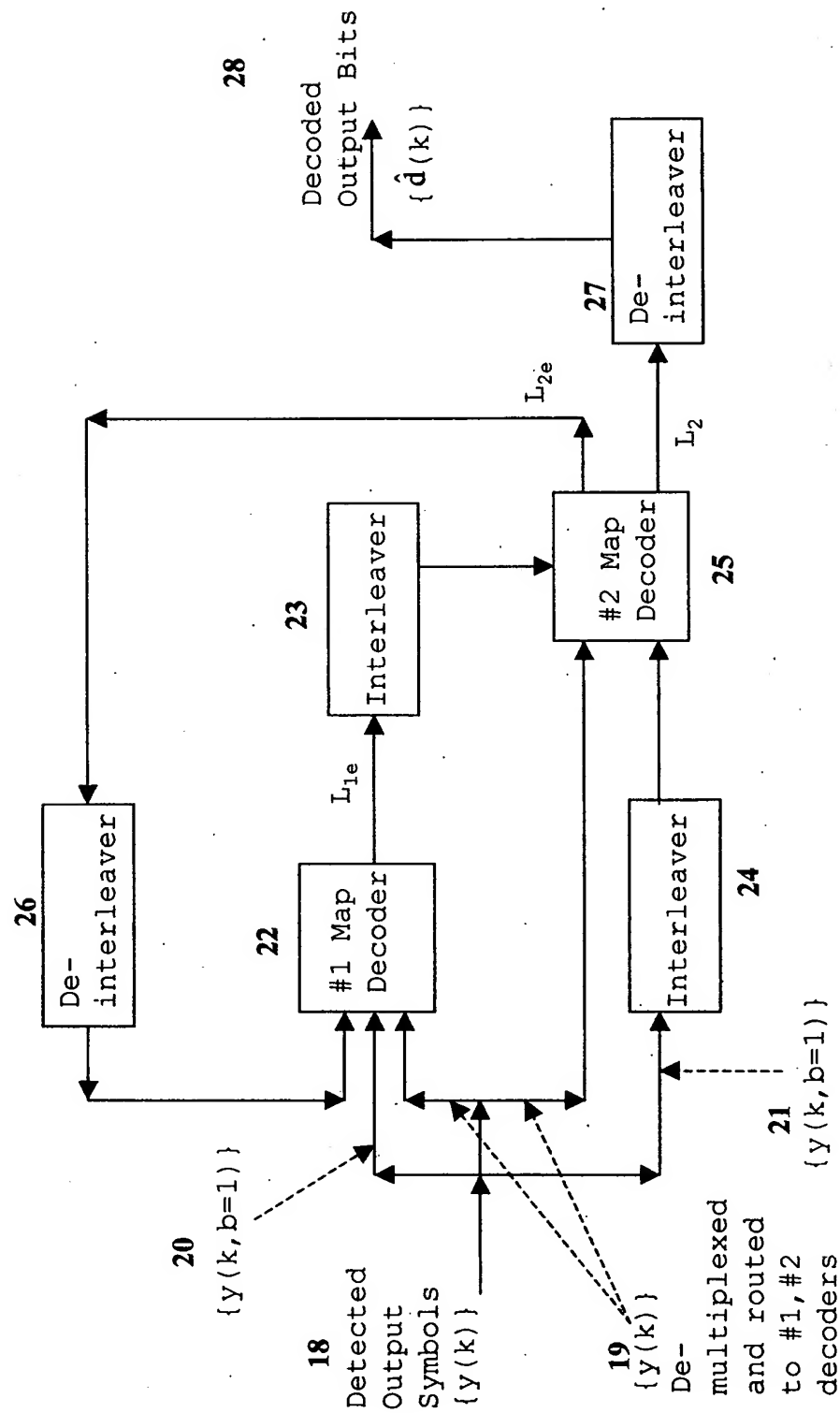
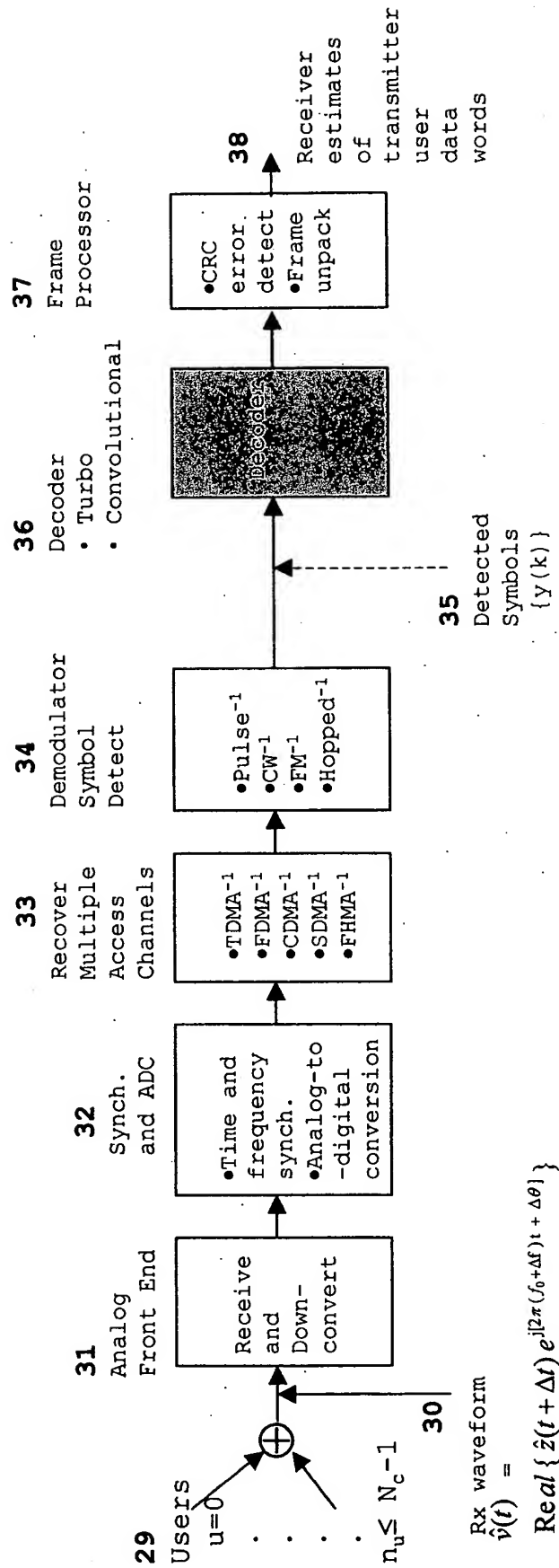
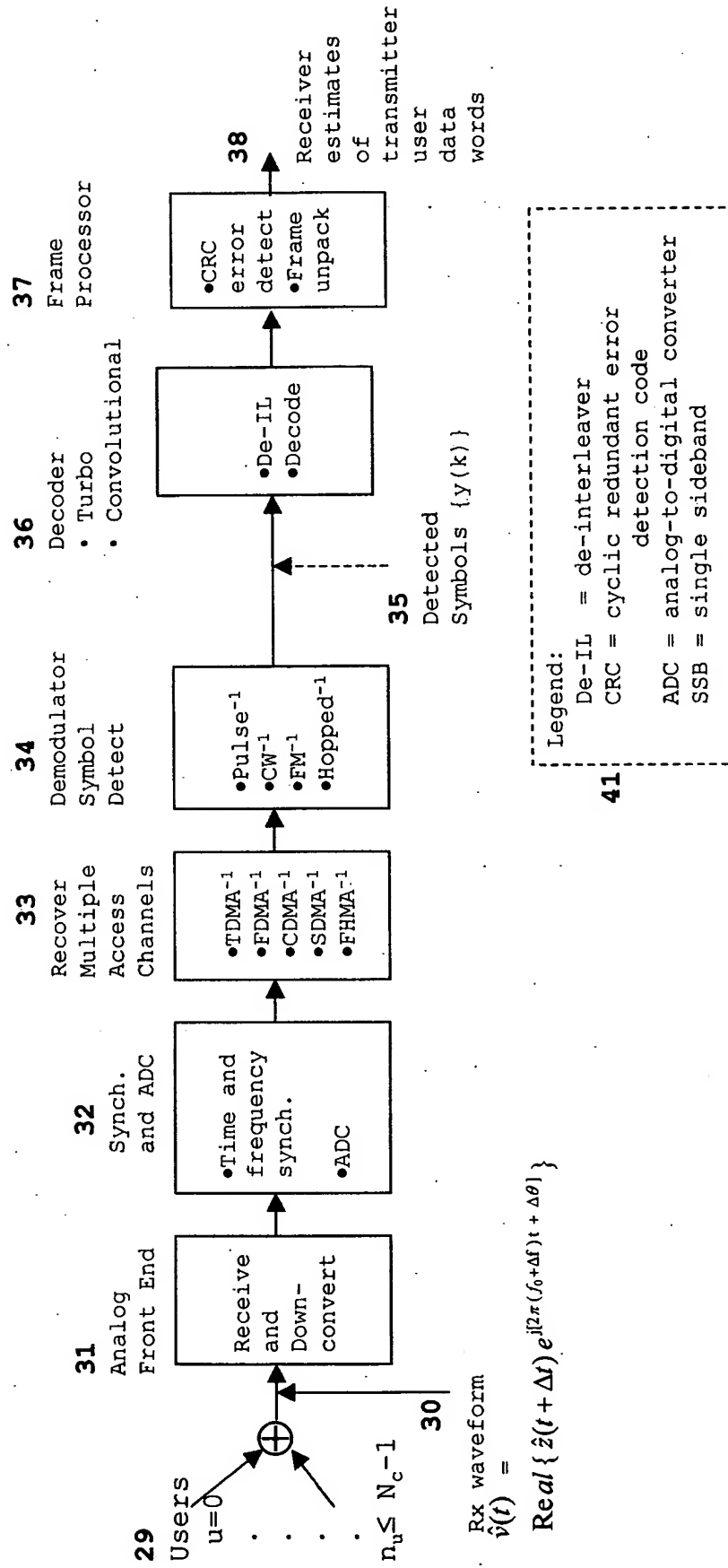


FIG. 4 Turbo/Convolutional Code Receiver Block Diagram



# REPLACEMENT SHEET

**FIG. 4 Prior Art: Turbo/Convolutional Code Receiver Block Diagram**

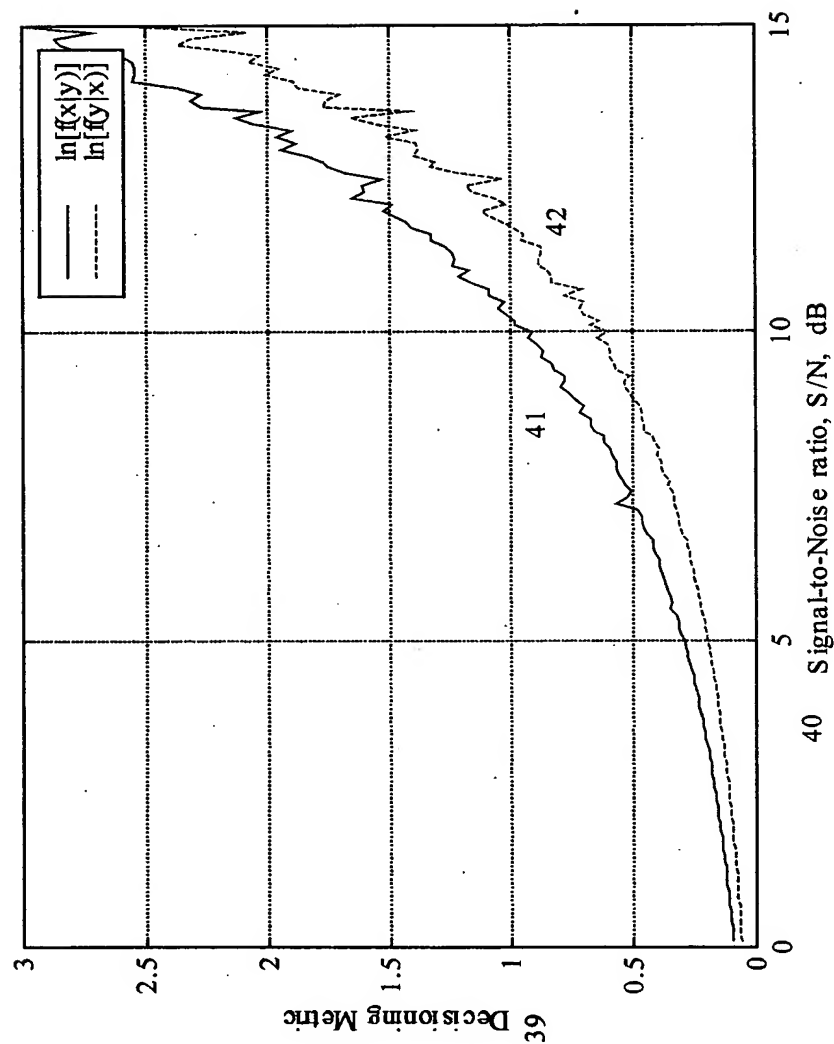


Rx waveform  
 $\hat{v}(t) = \text{Real} \{ \hat{z}(t + \Delta t) e^{j2\pi(f_0 + \Delta f)(t + \Delta t)} \}$



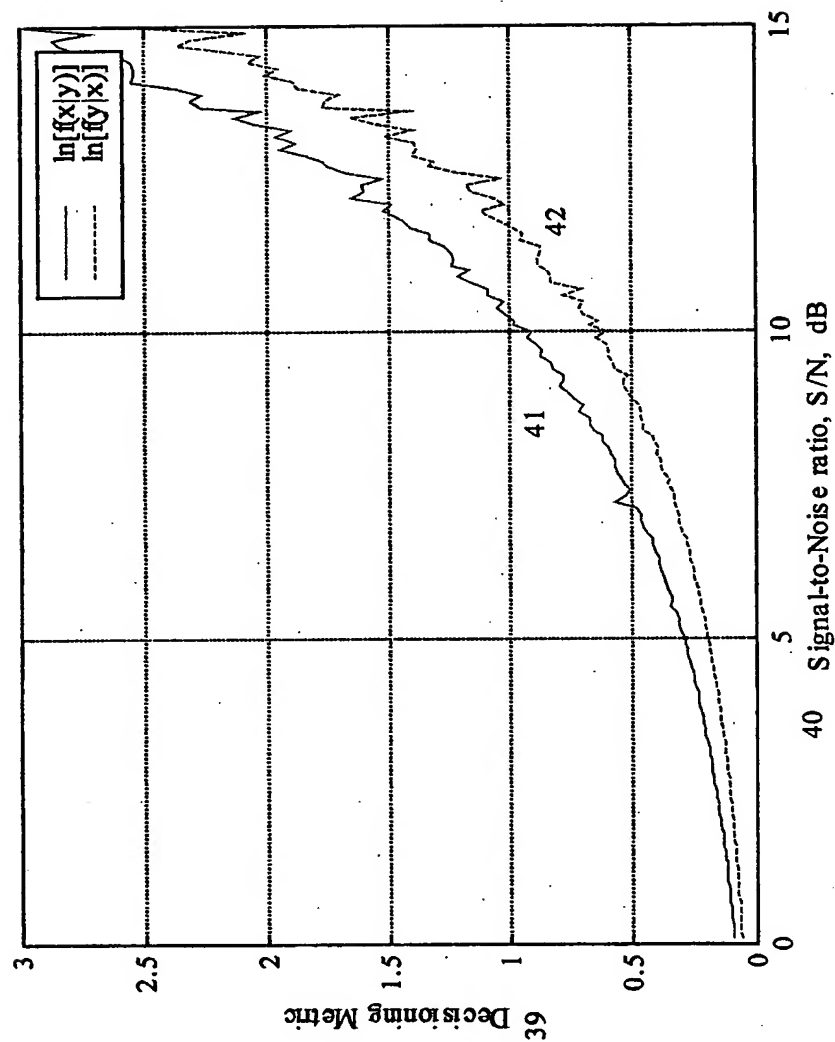
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FIG. 5 Performance of our MX decisioning metric  $\ln[f(x|y)]$  vs. the ML decisioning metric  $\ln[f(y|x)]$



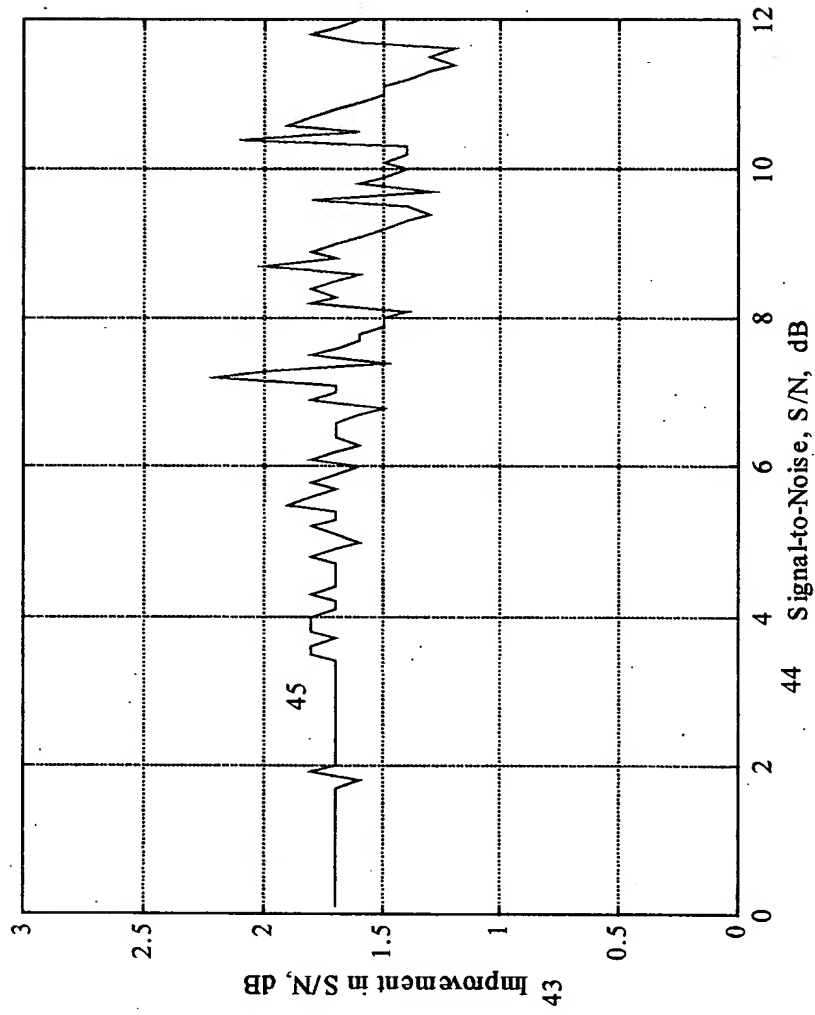
# REPLACEMENT SHEET

FIG. 5 Performance of our MX decisioning metric  $\ln[f(x|y)]$  vs. the ML decisioning metric  $\ln[f(y|x)]$



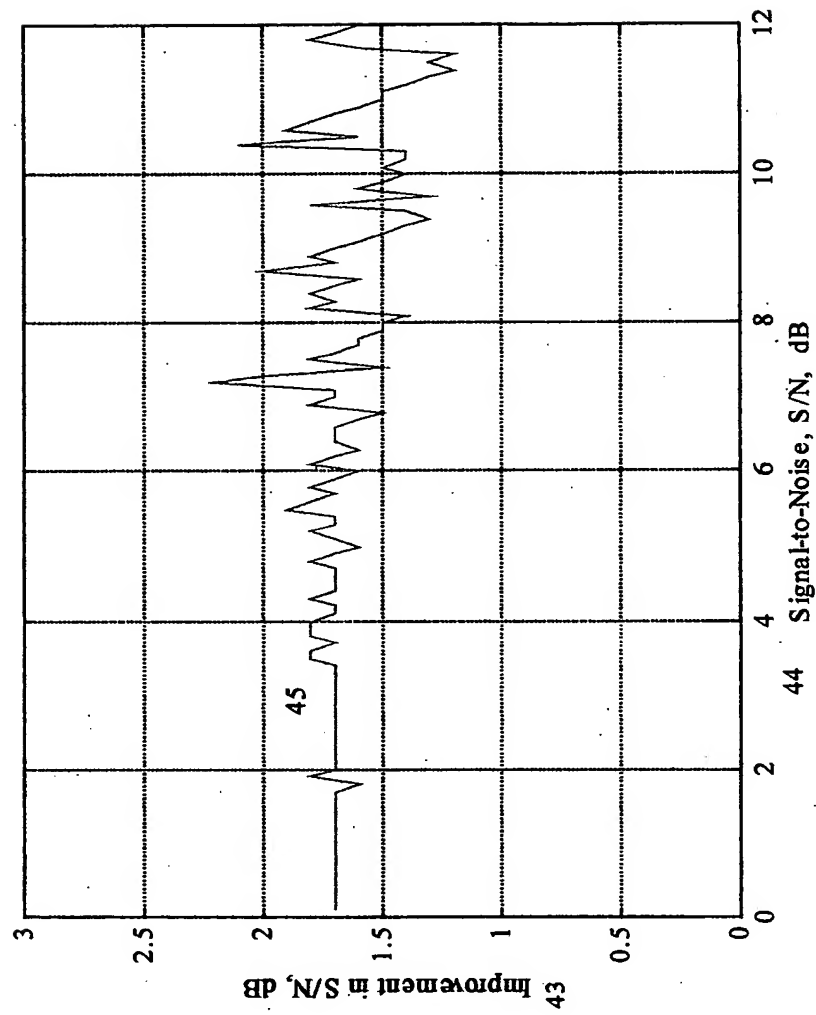
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**FIG. 6 Improvement in S/N using our new MX Decisioning metric DX vs. the ML metric DM**



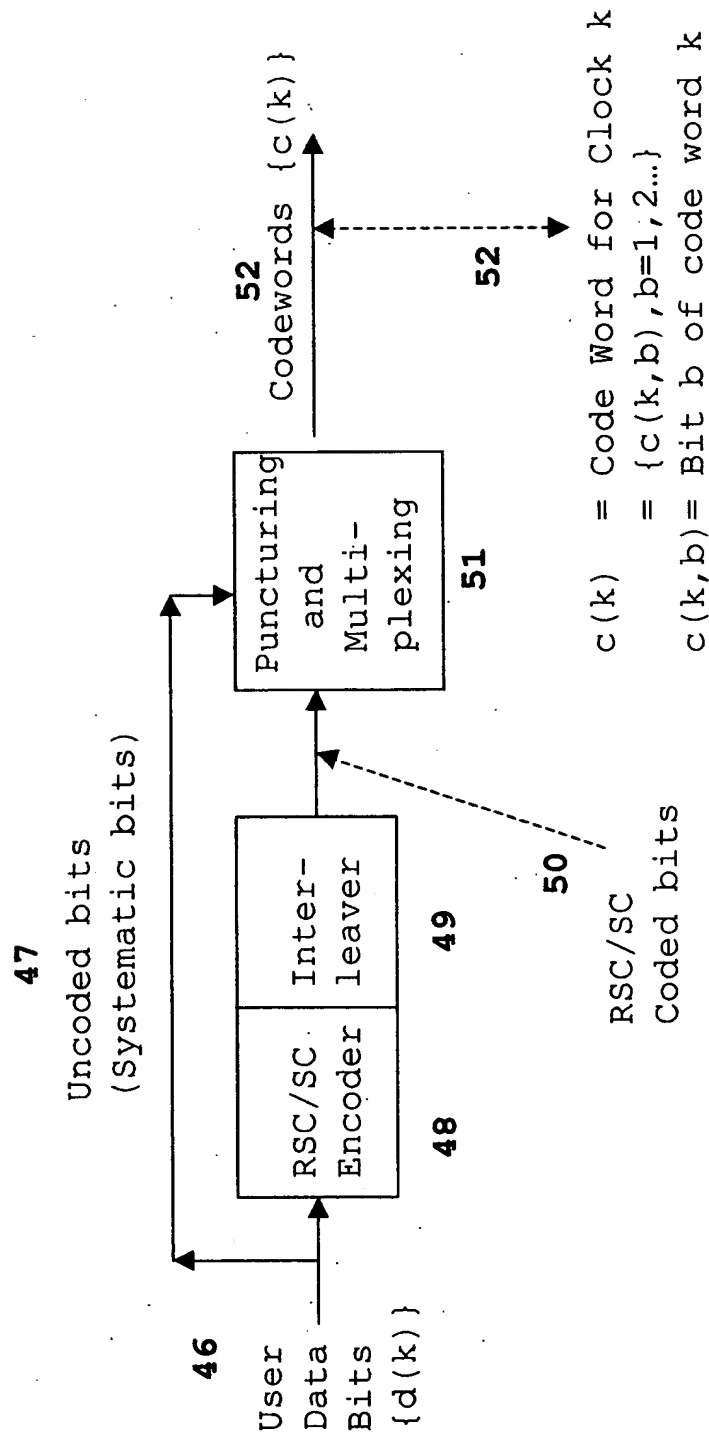
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**FIG. 6 Improvement in S/N using our new MX Decisioning metric DX vs. the ML metric DM**



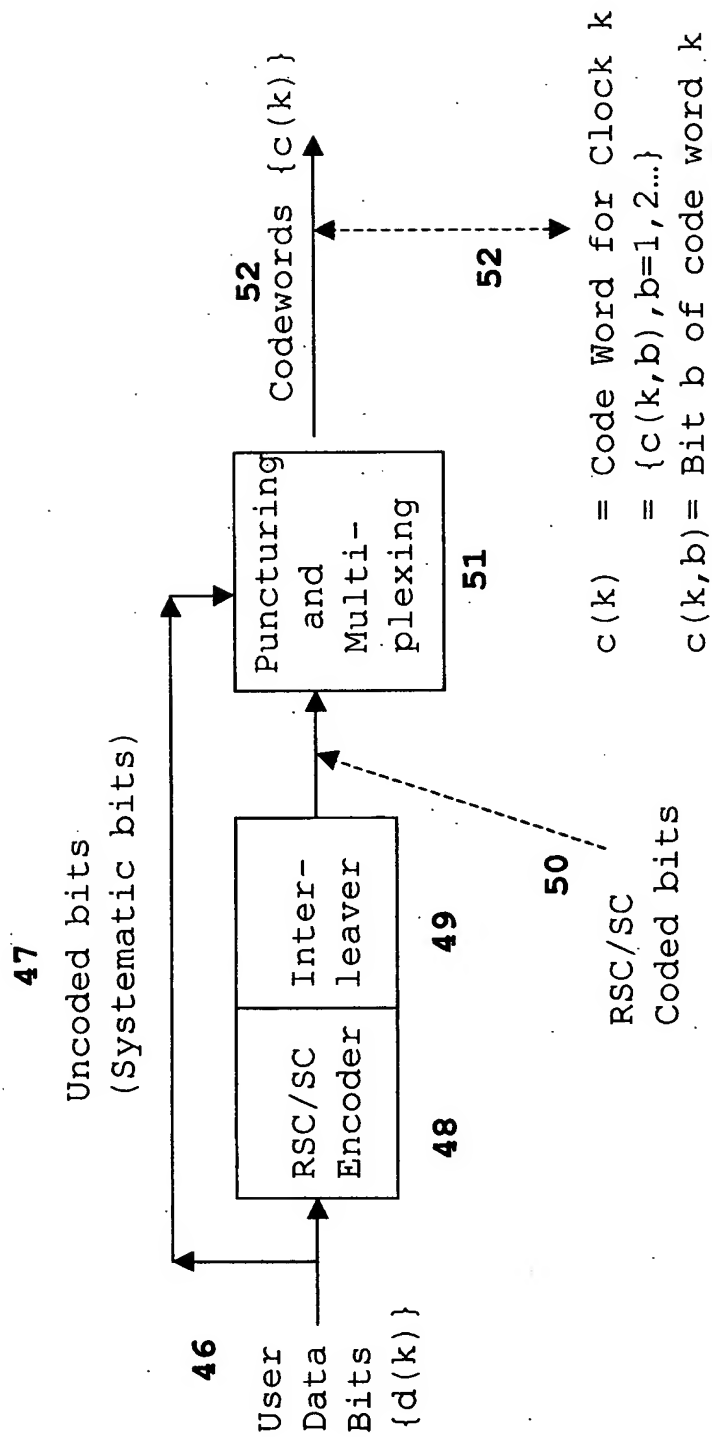
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FIG. 7 Convolutional Encoder Block Diagram



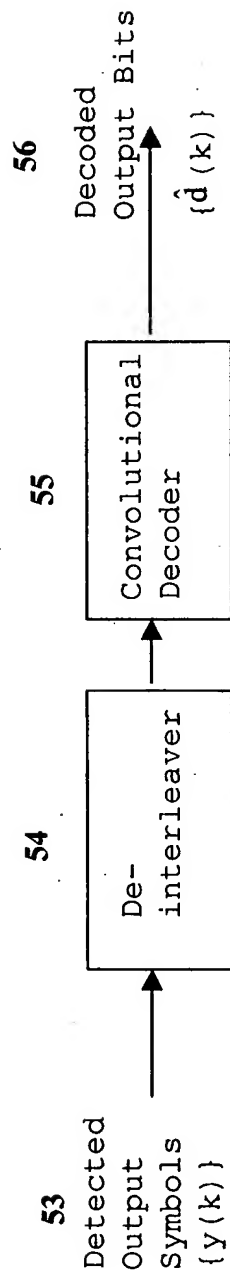
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FIG. 7 Prior Art: Convolutional Encoder Block Diagram



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FIG. 8 Convolutional Decoder Block Diagram



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FIG. 8 Prior Art: Convolutional Decoder Block Diagram

